

# Rural Utility Services of Alaska

JUN 3 2002

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May 30, 2002

Ms. Kathy Prentki  
Denali Commission  
510 L Street, Suite 410  
Peterson Tower  
Anchorage, AK 99501

Dear Kathy:

Enclosed is Rural Utility Services of Alaska's (RUSA) final report with regard to the Rural Water and Sewer Demonstration Project – Phase I. As you know, this project was previously funded under an award from the commission. This document concludes the final phase I tasks, estimates the costs of the phase II and comprises the phase II funding proposal.

RUSA has expended significant resources to date on this project, and would appreciate your help in expediting payments. Please contact me at (907) 479-3118 if you have any questions or need any additional information.

Sincerely,



Dan Gavora  
Executive Vice President

Enclosures

**Rural Utilities Services of Alaska  
Water and Wastewater  
Demonstration Project Phase II  
May 2002**

***Introduction:***

In November of 2000, Rural Utility Services of Alaska, Inc. (RUSA) submitted Phase I of the Rural Sewer and Water Demonstration Project to the Denali Commission for Funding. Phase I was funded and is now complete. This document concludes the final Phase I tasks, estimates the costs of Phase II, and comprises the Phase II funding proposal.

The project was proposed with the understanding that the goal of a variety of federal, state, and local entities is to achieve "sustainable" utility service in rural Alaska. Inherent within this goal is the recognition that few, if any villages or communities in rural Alaska meet the technical, financial and managerial standards nor comply with existing state and federal health regulations. Furthermore, it is unlikely a rural community can be sustainable without a continued on going subsidy in some form.

The Project does not examine or question the public policy decision on whether or not to build rural water and wastewater systems. That decision has been made. RUSA proposes to design and, most importantly, actually demonstrate in three Alaskan rural communities a water and wastewater system economic model that recognizes all costs of operation, including costs of capital, depreciation, and future capital needs. The Project will quantify all costs required to achieve sustainability. It will also identify and recommend funding sources to maintain sustainability.

***Original Mission Statement of Demonstration Project:***

To transform village water and wastewater delivery systems from a community and state liability to an accountable, self sufficient, economically regulated, independent community asset which will enhance village economic independence and self determination while simultaneously providing reliable, efficient, safe, and sanitary service, fully compliant with existing state and federal health and environmental regulations, without creating additional regulatory authorities or state programs and to accomplish this task by effectively using existing resources committed to rural water and wastewater

utility programs and by implementing proven utility management practices.

The overarching goal of the demonstration project is to demonstrate what is required to create a "sustainable" utility in each village community. The term "sustainable" may have different meanings to different people. A key step in the process of creating a standard, workable definition of "sustainability" is an accurate assessment of all costs associated with utility operations, including capital costs and depreciation<sup>1</sup>. A second key step is creating an operational environment in which the utility employs sound business practices and is accountable for both success and failure in the operation. In order to determine accountability, there must be established standards of measurement and periodic monitoring and reporting.

It is clear that there are multiple funding sources for rural water and wastewater utilities. What is lacking is a common plan or direction. Without hard data on costs, adopting a comprehensive, forward looking plan for that coordinates funding for water and wastewater service delivery in rural Alaska is difficult. The demonstration project will identify all costs using the standard regulated utility model that has been employed in Alaska for many years. Once costs are identified, policy decisions concerning how those costs are recovered can be debated.

#### **Demonstration Project Communities:**

During Phase I, many communities expressed an interest in participating in the demonstration project. In addition to interest expressed verbally, RUSA received written expressions of interest from the Atlanta Tribal Council, Chalkyitsik, City of Galena, Hughes City Council, Huslia City Council, Kaltag, City of Koyukyk, Minto Village Council, City of McGrath, City of Nulato, and Too'gha, Inc. (Tanana). The wide level of interest strongly suggests a willingness on the part of the individual communities to be involved in the process of assuring the ongoing adequacy of their systems.

Of those expressing written interest, three communities, Kaltag, Tanana, and Chalkyitsik, were selected for the demonstration project. These communities have existing water and wastewater systems and passed resolutions agreeing to participate in Phase II. In addition to the many commonalities that are typical of rural Alaska, these three communities have distinct and different characteristics that RUSA believes

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<sup>1</sup> Or amortization with respect to contributed capital.

effectively represent the broad range of delivery systems, remaining service life, and financial characteristics associated with the region.

Chalkyitsik is a small community without a piped system. It has a building which acts as the central water distribution point, with community showers and washing facilities. Kaltag has an older piped system that was difficult to evaluate during Phase I. It is believed to be characteristic of communities with existing systems that suffer from disrepair, lack of records, and inadequate TFM to operate the system. Tanana, on the other hand, has a new piped system that is serving an apparently declining population. Initial inspection suggests a system overbuilt for the community and one that will be expensive to maintain.

#### **Demonstration Project Goals:**

As outlined in the original proposal, during Phase II, RUSA believes it is both reasonable and probable that proven arctic water and wastewater regulated utility practices can be adapted to rural Alaskan Villages by evaluating the three chosen communities and establishing each as a regulated system, under simplified procedures, developed in conjunction with the Regulatory Commission of Alaska and other involved state and federal agencies. Under Phase III, these system can be operated under the general guidelines of the existing statutory and regulatory framework or, if identified, under modified statutes and or regulations. The specific goals of the Project with respect to the three identified communities are:

- Create sustainable and accountable economically regulated water and wastewater utilities that can operate under existing (or reasonably modifiable) state statutory authority;
- Identify and allocate all costs of utility operation in each community;
- Promote Village self determination;
- Promote Village economic development;
- Train Village inhabitants to maintain and operate systems where feasible;
- Identify regulatory non-compliance and develop a system of monitoring performance to assure compliance with existing health and safety regulations;
- Achieve Village acceptance of the primary responsibility for utility operation and management;
- Create efficiencies in utility service delivery in conjunction with other utility service providers;

- Evaluate system designs with affordability, maintainability, and economic service life in mind;
- Identify, based upon the project experience, model water and wastewater delivery systems that are adaptable to a wide variety of operational and financial variations;
- Develop a model framework for existing and future systems
- Identify overlapping or duplicate efforts to provide water and wastewater (or other utility) services and recommend services that can be consolidated or eliminated;
- Redirect financial resources currently committed or available to the provision of water and wastewater services without additional or duplicative monetary requirements;
- Identify any required utility subsidy and identify the source and amount of on going funding; and
- Consolidate responsibility and accountability where efficiencies will result and decentralize when appropriate.

The model incorporates the existing concept of "economic regulation" currently applied by the RCA to multiple utilities operating in the more populated regions of Alaska. This necessarily includes utility ownership and management that is "fit, willing, and able". In Alaska, the RCA is specifically established, staffed, and operated to provide oversight and regulation and to assure that citizens of Alaska have reasonably efficient, cost effective, safe and sanitary utility service that complies with state and federal health standards.

Simply stated, under economic regulation, the total costs of the system are identified and quantified in a "Revenue Requirement". That is, that amount of revenue required to operate the utility system, including ongoing operational and administrative expenses, capital costs, and specifically including depreciation and a "return" on the capital plant used and useful in the water and wastewater systems.

RUSA recognizes that in the interim since the project was originally proposed, there has been substantial dialogue regarding "sustainability" among various agencies in Alaska. RUSA participated in the Sustainable Utilities in Rural Alaska, Steering Committee Report of November, 2001. The project is not intended to sidetrack that debate. Rather, by actually implementing a regulatory scheme modeled after existing practice, RUSA believes hard data will be developed that will assist in the debate.

### **Demonstration Project Description:**

The Project was configured to consist of three separately evaluated and individually funded phases.

*Phase I - Stakeholder Coordination & Village Identification - December 2000 to May 2002*

*Phase II - Project Assessment and Implementation - May 2002 to May 2004*

*Phase III - Water and Wastewater Utility System Operation - May 2004 forward*

#### **Phase I -**

Stakeholder Coordination & Village Identification has been completed.

#### **Phase II -**

Project Assessment and Implementation consists of 31 separately identified tasks originally listed as follows:

1. Identify and evaluate existing Village water and wastewater technical, managerial, and financial resources;
2. Fully assess all existing water and wastewater infrastructure in each Project Village;
3. Determine and document ownership of existing infrastructure if possible;
4. Collect and consolidate Village system designs or "as built's" if available;
5. Identify duplicate or multiple water and/or wastewater service providers;
6. Identify existing water and wastewater users, potential users, and prepare needs assessment;
7. Determine existing level of compliance or non-compliance with health and other governmental regulations;
8. Consolidate existing and duplicative information gathering mechanisms for the Project Villages;
9. Determine the appropriate ownership and financial interests necessary to motivate efficient operation;

10. Design, in conjunction with users, the most reliable, and efficient utility service delivery system consistent with existing infrastructure, existing needs, and available funding;
11. Provide instruction to Village operators and inhabitants on system operation and administration;
12. Create (if necessary) legal entity to own and operate water and wastewater utility systems;
13. Legally transfer, if required, systems assets (plant) consistent with operational entity;
14. Develop comprehensive, but simplified, Continuing Property Records (CPR) and update procedures;
15. Determine remaining physical (not financial) asset useful life and appropriate depreciation rates;
16. Document physical location of existing plant and system infrastructure where appropriate;
17. Determine additional capital required (if any) to repair or rehabilitate physical plant;
18. Identify health (safe and sanitary) regulatory compliance issues;
19. Adapt existing accounting and financial systems to provide the information necessary for economic regulation;
20. Develop, in conjunction with Regulatory Commission of Alaska (RCA) and, if appropriate other utility providers, a simplified model Revenue Requirement format and Cost of Service Study format;
21. Develop simplified, accurate, and necessary periodic regulatory reporting requirements;
22. Repair and rehabilitate, or configure and construct (if required), physical plant in accordance with design;
23. Correct existing compliance issues and design method of maintaining compliance;
24. Identify and establish any required administrative support in conjunction with other utility providers;

25. Quantify system administrative, operational, and capital costs;
26. Identify and assist in enacting any necessary statutory or regulatory changes;
27. Establish water and wastewater rates in conjunction with RCA and users;
28. Quantify any required on going subsidy;
29. Identify available and potential sources of funding for on going subsidy;
30. Establish subsidy funding source in conjunction with Village, RCA, and source of funds; and
31. Design Operational Plan (Phase III).

**Phase III -**

Water and Wastewater System Operation:

- Operate the water and wastewater systems in accordance with Operational Plan;
- Implement rate structure in accordance RCA filed and approved rates;
- Implement method of subsidy funding (if required);
- Monitor operation and provide support as required;
- Monitor training needs and operator continuity;
- Consider and implement suitable modifications; and
- Maintain flexibility to adapt Operational Plan if better methods are discovered or if unacceptable or inefficient techniques mandate operational or administrative revisions.

***Phase II Funding Request:***

After identifying and visiting the three selected communities, the Phase II tasks were numbered and an estimated budget based upon time requirements developed for each task. Phase II has been generally divided into two funding cycles of approximately 1 year each. The length of time necessary for completion of each task in some measure depends upon whether funding is approved in time for substantial work within this summer season. While many of

the tasks are not "weather dependant" the on site evaluations can best be performed during the summer. This will be especially true to the extent that underground work or evaluations are required.

Funding is requested over two funding cycles (two years). Attached are four spreadsheets which quantify the costs associated with the project. A cost for each task has been estimated based upon the time anticipated by personnel of various experience and from various disciplines. These include Senior Utility Management, Utility Staff, Engineering, Support Staff, and Consultants.

The tasks were generally grouped in funding cycles based upon the temporal relationship of when the tasks are best performed. However, substantial overlap will occur if duplicate effort is to be avoided. Thus, although the costs are identified by task, expenditures will be based upon performance. The spreadsheets show the estimated costs of Phase II as follows:

1. Estimated Hours Summarized by Task;
  - a. Represents a summary of the time expended by personnel category.
2. Assignment of Tasks to Funding Cycle;
  - a. Total costs per task allocated to the two requested funding cycles
3. Estimated Cost by Task;
  - a. Total hours estimated for each task plus overhead and profit
4. Estimated Hours by Task.
  - a. The estimated time for each task, by personnel category, for each village and adjusts for estimated efficiencies because the same task will be performed for three villages.

The funding requested for the first funding cycle (2002-2003) is \$ 365,000.

The funding requested for the second funding cycle (2003-2004) is \$400,000.

## Estimated Hours Summarized By Task

Task No.	Abbreviated Task Description	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
1	Identify and Evaluate TFM	30.0	55.0	13.0	60.0	6.0
2	Assess Infrastructure	24.0	62.0	79.0	60.0	80.0
3	Document Ownership	9.0	22.0	55.0	80.0	25.0
4	Collect As Builts	6.0	20.0	27.0	41.0	9.0
5	Identify Providers	4.5	6.0	5.4	10.0	-
6	Identify Users	15.0	44.0	30.0	70.0	27.0
7	Determine Compliance	10.0	40.0	11.0	30.0	20.0
8	Consolidate Existing Information	7.5	18.0	15.0	45.0	37.5
9	Determine Ownership Structure	36.0	20.0	-	30.0	15.0
10	Design Delivery System	37.5	98.0	132.0	155.0	81.3
11	Instruction	4.5	60.0	25.0	135.0	55.0
12	Create Operational Entity	16.0	-	-	50.0	40.0
13	Transfer System Assets	16.0	25.0	-	50.0	37.5
14	Develop CPR's	45.0	90.0	84.5	100.0	30.0
15	Establish Physical Life and Depreciation	14.0	65.0	65.0	30.0	45.0
16	Document Location of Existing Plant	3.0	43.0	55.0	30.0	31.0
17	Identify Capital Needs	22.0	31.5	37.5	22.5	35.0
18	Identify Regulatory Compliance (Health)	10.0	40.0	10.0	30.0	15.0
19	Adapt Existing Accounting Information	9.0	63.0	7.5	60.0	15.0
20	Develop Revenue Requirement Model	45.0	60.0	22.5	75.0	15.0
21	Develop Simplified Periodic Reporting	15.0	45.0	7.5	52.5	7.5
22	Rehabilitate Existing Plant	Unknown				
23	Correct Compliance Issues	18.0	40.0	9.0	54.0	30.0
24	Administrative Support Consolidation	30.0	60.0	15.0	90.0	15.0
25	Quantify System Costs	30.0	100.0	54.0	108.0	30.0
26	Identify Required Statutory Changes	unknown				
27	Establish Regulated Rates	60.0	100.0	45.0	120.0	187.5
28	Quantify Required On Going Subsidy	17.5	30.0	-	30.0	10.0
29	Identify Sources for On Going Subsidy	30.0	50.0	-	50.0	25.0
30	Establish Subsidy Funding Source	unknown				
31	Design Operational Plan (Phase III)	100.0	240.0	120.0	260.0	80.0

**Summary Total**

Total Estimated Hours	664.5	1,527.5	924.9	1,928.0	1,004.3
Estimated Average Hourly Cost	\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
Cost Before Overhead and Profit	\$ 96,353	\$ 175,663	\$ 115,613	\$ 125,320	\$ 150,638
Direct Expenses and Overhead Profit	10% \$ 9,635 10% \$ 9,635	\$ 17,566 \$ 17,566	\$ 11,561 \$ 11,561	\$ 12,532 \$ 12,532	
Total by Category	\$ 115,623	\$ 210,795	\$ 138,735	\$ 150,384	\$ 150,638
Phase II Total				\$ 766,175	

## Assignment of Task to Funding Cycle

Task No.	Abbreviated Task Description	Funding Cycle	Task Total	Cycle 1	Cycle 2
1	Identify and Evaluate TFM	1	20,340	20,340	
2	Assess Infrastructure	1	41,262	41,262	
3	Document Ownership	1	22,842	22,842	
4	Collect As Builts	1	12,402	12,402	
5	Identify Providers	1	3,201	3,201	
6	Identify Users	1	22,692	22,692	
7	Determine Compliance	1	14,250	14,250	
8	Consolidate Existing Information	1	15,174	15,174	
9	Determine Ownership Structure	1	13,614	13,614	
10	Design Delivery System	1	64,127	64,127	
11	Instruction	1	31,593	31,593	
15	Establish Physical Life and Depreciation	1	30,246	30,246	
17	Identify Capital Needs	1	20,805	20,805	
18	Identify Regulatory Compliance (Health)	1	13,350	13,350	
25	Quantify System Costs	1	40,044	40,044	
14	Develop CPRIs	2	45,225	45,225	
12	Create Operational Entity	2	12,684	12,684	
13	Transfer System Assets	2	15,759	15,759	
16	Document Location of Existing Plant	2	21,696	21,696	
19	Adapt Existing Accounting Information	2	18,315	18,315	
20	Develop Revenue Requirement Model	2	27,585	27,585	
21	Develop Simplified Periodic Reporting	2	15,165	15,165	
23	Correct Compliance Issues	2	18,714	18,714	
24	Administrative Support Consolidation	2	25,020	25,020	
27	Establish Regulated Rates	2	68,475	68,475	
28	Quantify Required On Going Subsidy	2	11,025	11,025	
29	Identify Sources for On Going Subsidy	2	19,770	19,770	
31	Design Operational Plan (Phase III)	2	100,800	100,800	
22	Rehabilitate Existing Plant	unknown	unknown	unknown	
26	Identify Required Statutory Changes	2	100,800	100,800	
30	Establish Subsidy Funding Source	unknown	unknown	unknown	
			766,175	365,942	400,233

## Estimated Cost by Task

	Estimated Cost by Task					
	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants	
<b>1 Identify and Evaluate TFM</b>	\$ 30.0	\$ 55.0	\$ 13.0	\$ 60.0	\$ 6.0	
	\$ 145	\$ 115	\$ 125	\$ 65	\$ 150	
	\$ 4,350	\$ 6,325	\$ 1,625	\$ 3,900	\$ 900	
Overhead and Profit	20%	\$ 870	\$ 1,265	\$ 325	\$ 780	
<b>Total</b>	<b>\$ 5,220</b>	<b>\$ 7,590</b>	<b>\$ 1,950</b>	<b>\$ 4,680</b>	<b>\$ 900</b>	<b>\$ 20,340</b>
<b>2 Assess Infrastructure</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants	
	\$ 24.0	\$ 62.0	\$ 79.0	\$ 60.0	\$ 80.0	
	\$ 145	\$ 115	\$ 125	\$ 65	\$ 150	
	\$ 3,480	\$ 7,130	\$ 9,875	\$ 3,900	\$ 12,000	
Overhead and Profit	20%	\$ 696	\$ 1,426	\$ 1,975	\$ 780	
<b>Total</b>	<b>\$ 4,176</b>	<b>\$ 8,556</b>	<b>\$ 11,850</b>	<b>\$ 4,680</b>	<b>\$ 12,000</b>	<b>\$ 41,262</b>
<b>3 Document Ownership</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants	
	9.0	22.0	55.0	80.0	25.0	
	\$ 145	\$ 115	\$ 125	\$ 65	\$ 150	
	\$ 1,305	\$ 2,530	\$ 6,875	\$ 5,200	\$ 3,750	
Overhead and Profit	20%	\$ 261	\$ 506	\$ 1,375	\$ 1,040	
<b>Total</b>	<b>\$ 1,566</b>	<b>\$ 3,036</b>	<b>\$ 8,250</b>	<b>\$ 6,240</b>	<b>\$ 3,750</b>	<b>\$ 22,842</b>
<b>4 Collect As Builts</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants	
	6.0	20.0	27.0	41.0	9.0	
	\$ 145	\$ 115	\$ 125	\$ 65	\$ 150	
	\$ 870	\$ 2,300	\$ 3,375	\$ 2,665	\$ 1,350	
Overhead and Profit	20%	\$ 174	\$ 460	\$ 675	\$ 533	
<b>Total</b>	<b>\$ 1,044</b>	<b>\$ 2,760</b>	<b>\$ 4,050</b>	<b>\$ 3,198</b>	<b>\$ 1,350</b>	<b>\$ 12,402</b>

<b>5</b>	<b>Identify Providers</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		4.5	6.0	5.4	10.0	0.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 653	\$ 690	\$ 675	\$ 650	\$ -
		20%	\$ 131	\$ 138	\$ 135	\$ 130
		\$ 783	\$ 828	\$ 810	\$ 780	\$ -
						\$ 3,201
<b>6</b>	<b>Identify Users</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		15.0	44.0	30.0	70.0	27.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 2,175	\$ 5,060	\$ 3,750	\$ 4,550	\$ 4,050
		20%	\$ 435	\$ 1,012	\$ 750	\$ 910
		\$ 2,610	\$ 6,072	\$ 4,500	\$ 5,460	\$ 4,050
						\$ 22,692
<b>7</b>	<b>Determine Compliance</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		10.0	40.0	11.0	30.0	20.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 1,450	\$ 4,600	\$ 1,375	\$ 1,950	\$ 3,000
		20%	\$ 290	\$ 920	\$ 275	\$ 390
		\$ 1,740	\$ 5,520	\$ 1,650	\$ 2,340	\$ 3,000
						\$ 14,250
<b>8</b>	<b>Consolidate Existing Information</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		7.5	18.0	15.0	45.0	37.5
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 1,088	\$ 2,070	\$ 1,875	\$ 2,925	\$ 5,625
		20%	\$ 218	\$ 414	\$ 375	\$ 585
		\$ 1,305	\$ 2,484	\$ 2,250	\$ 3,510	\$ 5,625
						\$ 15,174
<b>9</b>	<b>Determine Ownership Structure</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		36.0	20.0	0.0	30.0	15.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 5,220	\$ 2,300	\$ -	\$ 1,950	\$ 2,250
		20%	\$ 1,044	\$ 460	\$ -	\$ 390
		\$ 6,264	\$ 2,760	\$ -	\$ 2,340	\$ 2,250
						\$ 13,614

**10 Design Delivery System**

Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 37.5	98.0	132.0	155.0	81.3
\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
\$ 5,438	\$ 11,270	\$ 16,500	\$ 10,075	\$ 12,188
20% \$ 1,088	\$ 2,254	\$ 3,300	\$ 2,015	
<b>Total</b>	<b>\$ 6,525</b>	<b>\$ 13,524</b>	<b>\$ 19,800</b>	<b>\$ 12,188</b>
				<b>\$ 64,127</b>

**11 Instruction**

Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 4.5	60.0	25.0	135.0	55.0
\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
\$ 653	\$ 6,900	\$ 3,125	\$ 8,775	\$ 8,250
20% \$ 131	\$ 1,380	\$ 625	\$ 1,755	
<b>Total</b>	<b>\$ 783</b>	<b>\$ 8,280</b>	<b>\$ 3,750</b>	<b>\$ 8,250</b>
				<b>\$ 31,593</b>

**12 Create Operational Entity**

Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 16.0			\$ 50.0	40.0
\$ 145			\$ 65	\$ 150
\$ 2,320	\$ -	\$ -	\$ 3,250	\$ 6,000
20% \$ 464	\$ -	\$ -	\$ 650	
<b>Total</b>	<b>\$ 2,784</b>	<b>\$ -</b>	<b>\$ 3,900</b>	<b>\$ 6,000</b>
				<b>\$ 12,684</b>

**13 Transfer System Assets**

Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 16.0	25.0		\$ 50.0	37.5
\$ 145	\$ 115		\$ 65	\$ 150
\$ 2,320	\$ 2,875	\$ -	\$ 3,250	\$ 5,625
20% \$ 464	\$ 575	\$ -	\$ 650	
<b>Total</b>	<b>\$ 2,784</b>	<b>\$ 3,450</b>	<b>\$ -</b>	<b>\$ 5,625</b>
				<b>\$ 15,759</b>

**14 Develop CPR's**

Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 45.0	90.0	84.5	100.0	30.0
\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
\$ 6,525	\$ 10,350	\$ 10,563	\$ 6,500	\$ 4,500
20% \$ 1,305	\$ 2,070	\$ 2,113	\$ 1,300	
<b>Total</b>	<b>\$ 7,830</b>	<b>\$ 12,420</b>	<b>\$ 12,675</b>	<b>\$ 4,500</b>
				<b>\$ 45,225</b>

15	<b>Establish Physical Life and Depreciation</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 14.0	65.0	65.0	30.0	45.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 2,030	\$ 7,475	\$ 8,125	\$ 1,950	\$ 6,750
	<b>Overhead and Profit</b>	20%	\$ 406	\$ 1,495	\$ 1,625	\$ 390
	<b>Total</b>		\$ 2,436	\$ 8,970	\$ 9,750	\$ 2,340
					\$ 6,750	\$ 30,246
16	<b>Document Location of Existing Plant</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 3.0	43.0	55.0	30.0	31.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 435	\$ 4,945	\$ 6,875	\$ 1,950	\$ 4,650
	<b>Overhead and Profit</b>	20%	\$ 87	\$ 989	\$ 1,375	\$ 390
	<b>Total</b>		\$ 522	\$ 5,934	\$ 8,250	\$ 2,340
					\$ 4,650	\$ 21,696
17	<b>Identify Capital Needs</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 22.0	31.5	37.5	22.5	35.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 3,190	\$ 3,623	\$ 4,688	\$ 1,463	\$ 5,250
	<b>Overhead and Profit</b>	20%	\$ 638	\$ 725	\$ 938	\$ 293
	<b>Total</b>		\$ 3,828	\$ 4,347	\$ 5,625	\$ 1,755
					\$ 5,250	\$ 20,805
18	<b>Identify Regulatory Compliance (Health)</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 10.0	40.0	10.0	30.0	15.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 1,450	\$ 4,600	\$ 1,250	\$ 1,950	\$ 2,250
	<b>Overhead and Profit</b>	20%	\$ 290	\$ 920	\$ 250	\$ 390
	<b>Total</b>		\$ 1,740	\$ 5,520	\$ 1,500	\$ 2,340
					\$ 2,250	\$ 13,350
19	<b>Adapt Existing Accounting Information</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 9.0	63.0	7.5	60.0	15.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 1,305	\$ 7,245	\$ 938	\$ 3,900	\$ 2,250
	<b>Overhead and Profit</b>	20%	\$ 261	\$ 1,449	\$ 188	\$ 780
	<b>Total</b>		\$ 1,566	\$ 8,694	\$ 1,125	\$ 4,680
					\$ 2,250	\$ 18,315

		Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
20	<b>Develop Revenue Requirement Model</b>	\$ 45.0	60.0	22.5	75.0	15.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 6,525	\$ 6,900	\$ 2,813	\$ 4,875	\$ 2,250
	Overhead and Profit	20%	\$ 1,305	\$ 1,380	\$ 563	\$ 975
	Total	\$ 7,830	\$ 8,280	\$ 3,375	\$ 5,850	\$ 2,250
						\$ 27,585
21	<b>Develop Simplified Periodic Reporting</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 15.0	45.0	7.5	52.5	7.5
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 2,175	\$ 5,175	\$ 938	\$ 3,413	\$ 1,125
	Overhead and Profit	20%	\$ 435	\$ 1,035	\$ 188	\$ 683
	Total	\$ 2,610	\$ 6,210	\$ 1,125	\$ 4,095	\$ 1,125
						\$ 15,165
22	<b>Rehabilitate Existing Plant</b>	Unknown				
23	<b>Correct Compliance Issues</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 18.0	40.0	9.0	54.0	30.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 2,610	\$ 4,600	\$ 1,125	\$ 3,510	\$ 4,500
	Overhead and Profit	20%	\$ 522	\$ 920	\$ 225	\$ 702
	Total	\$ 3,132	\$ 5,520	\$ 1,350	\$ 4,212	\$ 4,500
						\$ 18,714
24	<b>Administrative Support Consolidation</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 30.0	60.0	15.0	90.0	15.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 4,350	\$ 6,900	\$ 1,875	\$ 5,850	\$ 2,250
	Overhead and Profit	0%	\$ 870	\$ 1,380	\$ 375	\$ 1,170
	Total	\$ 5,220	\$ 8,280	\$ 2,250	\$ 7,020	\$ 2,250
						\$ 25,020

		Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 30.0	100.0	54.0	108.0	30.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 4,350	\$ 11,500	\$ 6,750	\$ 7,020	\$ 4,500
		0%	\$ 870	\$ 2,300	\$ 1,350	\$ 1,404
		\$ 5,220	\$ 13,800	\$ 8,100	\$ 8,424	\$ 4,500
						\$ 40,044
25	<b>Quantify System Costs</b>	Unknown				
26	<b>Identify Required Statutory Changes</b>	Unknown				
27	<b>Establish Regulated Rates</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 60.0	100.0	45.0	120.0	187.5
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 8,700	\$ 11,500	\$ 5,625	\$ 7,800	\$ 28,125
		0%	\$ 1,740	\$ 2,300	\$ 1,125	\$ 1,560
		\$ 10,440	\$ 13,800	\$ 6,750	\$ 9,360	\$ 28,125
						\$ 68,475
28	<b>Identify Sources for On Going Subsidy</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 17.5	30.0	0.0	30.0	10.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 2,538	\$ 3,450	\$ -	\$ 1,950	\$ 1,500
		0%	\$ 508	\$ 690	\$ -	\$ 390
		\$ 3,045	\$ 4,140	\$ -	\$ 2,340	\$ 1,500
						\$ 11,025
29	<b>Identify Sources for On Going Subsidy</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
		\$ 30.0	50.0	0.0	50.0	25.0
		\$ 145	\$ 115	\$ 125	\$ 65	\$ 150
		\$ 4,350	\$ 5,750	\$ -	\$ 3,250	\$ 3,750
		0%	\$ 870	\$ 1,150	\$ -	\$ 650
		\$ 5,220	\$ 6,900	\$ -	\$ 3,900	\$ 3,750
						\$ 19,770
30	<b>Establish Subsidy Funding Source</b>	Unknown				

## 31 Design Operational Plan (Phase III)

	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
\$ 100.0	240.0	120.0	260.0	80.0	
\$ 145	\$ 115	\$ 125	\$ 65	\$ 150	
\$ 14,500	\$ 27,600	\$ 15,000	\$ 16,900	\$ 12,000	
0%	\$ 2,900	\$ 5,520	\$ 3,000	\$ 3,380	
\$ 17,400	\$ 33,120	\$ 18,000	\$ 20,280	\$ 12,000	\$ 100,800

**Total Phase II****\$ 766,175**

## Estimated Hours by Task

	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
<b>1 Identify and Evaluate TFM</b>					
Chalkyitsik	15	25	5	30	2
Kaltag	15	25	5	30	2
Tanana	15	25	5	30	2
Total	45	75	15	90	6
Estimated Efficiency Adjustment (EEA)	50%	60%	80%	50%	100%
Adjusted Hours	30	55	13	60	6
<b>2 Assess Infrastructure</b>					
Kaltag	15	35	40	30	40
Chalkyitsik	5	20	30	30	20
Tanana	10	25	35	30	20
Total	30	80	105	90	80
EEA	60%	60%	60%	50%	100%
Adjusted Hours	24	62	79	60	80
<b>3 Document Ownership</b>					
Chalkyitsik	5	10	25	40	10
Kaltag	5	10	25	40	10
Tanana	5	10	25	40	10
Total	15	30	75	120	30
EEA	40%	60%	60%	50%	75%
Adjusted Hours	9	22	55	80	25
<b>4 Collect As Builts</b>					
Kaltag	3	10	15	25	5
Chalkyitsik	3	10	10	20	2
Tanana	3	10	10	20	2
Total	9	30	35	65	9
EEA	50%	50%	60%	40%	100%
Adjusted Hours	6	20	27	41	9

**5 Identify Providers**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	3	3	3	3	5
Kaltag	3	3	3	3	5
Tanana	3	3	3	3	5
Total	9	9	9	15	0
EEA	25%	50%	40%	50%	0
Adjusted Hours	4.5	6	5.4	10	0

**6 Identify Users**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	10	20	20	35	15
Kaltag	10	20	20	35	15
Tanana	10	20	20	35	15
Total	30	60	60	105	45
EEA	25%	60%	25%	50%	40%
Adjusted Hours	15	44	30	70	27

**7 Determine Compliance**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	5	20	5	20	10
Kaltag	5	20	5	20	10
Tanana	5	20	5	20	10
Total	15	60	15	60	30
EEA	50%	50%	60%	25%	50%
Adjusted Hours	10	40	11	30	20

**8 Consolidate Existing Information**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	5	10	10	30	25
Kaltag	5	10	10	30	25
Tanana	5	10	10	30	25
Total	15	30	30	90	75
EEA	25%	40%	25%	25%	25%
Adjusted Hours	7.5	18	15	45	37.5

**9 Determine Ownership Structure**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	20	10		15	10
Kaltag	20	10		15	10
Tanana	20	10		15	10
Total	60	30	0	45	30
EEA	40%	50%		50%	25%
Adjusted Hours	36	20	0	30	15

**10 Design Delivery System**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	25	50	60	80	40
Kaltag	25	50	50	80	30
Tanana	25	30	40	70	25
Total	75	130	150	230	95
EEA	25%	60%	80%	50%	75%
Adjusted Hours	37.5	98	132	155	81.25

**11 Instruction**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	3	20	10	50	30
Kaltag	3	15	5	25	5
Tanana	3	25	10	60	20
Total	9	60	25	135	55
EEA	25%	100%	100%	100%	100%
Adjusted Hours	4.5	60	25	135	55

**12 Create Operational Entity**

	Sr. Util. Mgt.	Util. Staff	Engineering	Supt' Staff	Consultants
Chalkyitsik	10			25	25
Kaltag	10			25	25
Tanana	10			25	25
Total	30	0	0	75	75
EEA	30%			50%	30%
Adjusted Hours	16	0	0	50	40

<b>13</b>	<b>Transfer System Assets</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Kaltag	10	10		25	25
	Chalkyitsik	10	5		25	25
	Tanana	10	10		25	25
	Total	30	25	0	75	75
	EEA	30%	100%		50%	25%
	Adjusted Hours	16	25	0	50	37.5
<b>14</b>	<b>Develop CPR's</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Kaltag	30	35	35	50	20
	Chalkyitsik	30	25	25	50	20
	Tanana	30	30	30	50	20
	Total	90	90	90	150	60
	EEA	25%	100%	90%	50%	25%
	Adjusted Hours	45	90	84.5	100	30
<b>15</b>	<b>Establish Physical Life and Depreciation</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Kaltag	10	35	35	15	30
	Chalkyitsik	5	25	25	15	5
	Tanana	5	25	25	15	10
	Total	20	85	85	45	45
	EEA	40%	60%	60%	50%	100%
	Adjusted Hours	14	65	65	30	45
<b>16</b>	<b>Document Location of Existing Plant</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Kaltag	1	20	30	10	20
	Chalkyitsik	1	3	5	10	1
	Tanana	1	20	20	10	10
	Total	3	43	55	30	31
	EEA	100%	100%	100%	100%	100%
	Adjusted Hours	3	43	55	30	31

		Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
17	<b>Identify Capital Needs</b>	10	20	25	15	20
	Kaitag	2	3	5	15	5
	Chalkyitsik	10	20	20	15	10
	Tanana					
	Total	22	43	50	45	35
	EEA	100%	50%	50%	25%	100%
	Adjusted Hours	22	31.5	37.5	22.5	35
18	<b>Identify Regulatory Compliance (Health)</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Chalkyitsik	5	20	5	20	5
	Kaitag	5	20	5	20	5
	Tanana	5	20	5	20	5
	Total	15	60	15	60	15
	EEA	50%	50%	50%	25%	100%
	Adjusted Hours	10	40	10	30	15
19	<b>Adapt Existing Accounting Information</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Chalkyitsik	5	35	5	40	10
	Kaitag	5	35	5	40	10
	Tanana	5	35	5	40	10
	Total	15	105	15	120	30
	EEA	40%	40%	25%	25%	25%
	Adjusted Hours	9	63	7.5	60	15
20	<b>Develop Revenue Requirement Model</b>	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
	Tanana	30	40	15	50	10
	Kaitag	30	40	15	50	10
	Chalkyitsik	30	40	15	50	10
	Total	90	120	45	150	30
	EEA	25%	25%	25%	25%	25%
	Adjusted Hours	45	60	22.5	75	15

**21 Develop Simplified Periodic Reporting**

Tanana	Sr. Util. Mgt.	10	Util. Staff	30	Engineering	5	Sup't Staff	35	Consultants	5
Kaltag		10		30		5		35		5
Chalkyitsik		10		30		5		35		5
Total		30		90		15		105		15
EEA		25%		25%		25%		25%		25%
Adjusted Hours		15		45		7.5		52.5		7.5

**22 Rehabilitate Existing Plant**

Adjusted Hours

Unknown

**23 Correct Compliance Issues**

Chalkyitsik	Sr. Util. Mgt.	10	Util. Staff	20	Engineering	5	Sup't Staff	30	Consultants	10
Kaltag		10		20		5		30		10
Tanana		10		20		5		30		10
Total		30		60		15		90		30
EEA		40%		50%		40%		40%		100%
Adjusted Hours		18		40		9		54		30

**24 Administrative Support Consolidation**

Chalkyitsik	Sr. Util. Mgt.	20	Util. Staff	40	Engineering	10	Sup't Staff	60	Consultants	10
Kaltag		20		40		10		60		10
Tanana		20		40		10		60		10
Total		60		120		30		180		30
EEA		25%		25%		25%		25%		25%
Adjusted Hours		30		60		15		90		15

**25 Quantify System Costs**

Tanana	Sr. Util. Mgt.	20	Util. Staff	50	Engineering	30	Sup't Staff	60	Consultants	15
Kaltag		20		50		30		60		15
Chalkyitsik		20		50		30		60		15
Total		60		150		90		180		45
EEA		25%		50%		40%		40%		50%
Adjusted Hours		30		100		54		108		30

**26 Identify Required Statutory Changes**

Sr. Util. Mgt.      Util. Staff      Engineering      Sup't Staff      Consultants  
unknown

**27 Establish Regulated Rates**

Tanana	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
Kaltag	30	50	25	60	75
Chalkyitsik	30	50	25	60	75
Total	90	150	75	180	225
EEA	50%	50%	40%	50%	75%
Adjusted Hours	60	100	45	120	187.5

**28 Quantify Required On Going Subsidy**

Tanana	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
Kaltag	10	15		20	5
Chalkyitsik	5	15		20	5
Total	20	45		60	15
EEA	75%	50%		25%	50%
Adjusted Hours	17.5	30		30	10

**29 Identify Sources for On Going Subsidy**

Sr. Util. Mgt.      Util. Staff      Engineering      Sup't Staff      Consultants  
Total                30                50                50                50                25

**30 Establish Subsidy Funding Source**

unknown

**31 Design Operational Plan (Phase III)**

Tanana	Sr. Util. Mgt.	Util. Staff	Engineering	Sup't Staff	Consultants
Kaltag	50	120	60	130	40
Chalkyitsik	50	120	40	130	10
Total	150	360	120	390	80
EEA	50%	50%	100%	50%	100%
Adjusted Hours	100	240	120	260	80